CLAIMS

1. A process for producing a crystallized film, comprising the steps of: preparing a film having a crystal grain at a prescribed location; melting a part of a region surrounding the crystal grain of the film and a part of a boundary between the crystal grain and the surrounding film locally by pulse heating; and re-solidifying the melted region.

2. The process for producing a crystallized film according to claim 1, wherein the film is in contact with a surface of a substrate, and the crystal structure of the surface of the substrate in contact with the region of melting and re-solidification of the film and the crystal structure of the formed crystallized film are not continuous.

3. The process for producing a crystallized film according to claim 1, wherein the step of re-solidification allows a crystal to grow from the crystal grain at the prescribed location in a lateral direction.

4. The process for producing a crystallized film according to claim 1, wherein the surrounding region outside the location-controlled crystal grain is completely melted.

5. The process for producing a crystallized film according to claim 1, wherein the process

comprises, after the step of the re-solidification, further a step of melting locally by pulse-heating a portion of the region surrounding the crystal grain having grown in the re-solidification step together with a portion of the boundary between the crystal grain having grown in the step and surrounding film; and a step of re-solidifying the melted region.

6. The process for producing a crystallized film according to claim 5, wherein the repeated step of the melting and re-solidification is conducted plural times.

7. The process for producing a crystallized film according to claim 5, wherein the region of the melting and re-solidification in the repeated step of the melting and re-solidification is overlapped partly with the region of the melting and re-solidification of the preceding step of the melting and re-solidification.

8. The process for producing a crystallized film according to claim 7, wherein the melting-solidification region in the repeated melting-solidification step includes the grain boundary of crystal grain having a crystal structure continuous to the location-controlled crystal grain.

9. The process for producing a crystallized film according to claim 5, wherein the melting-solidification region in the repeated melting-

solidification steps covers a region having not been employed yet as the melting-solidification region.

10. The process for producing a crystallized film according to claim 1, wherein the step of providing a film having a crystal grain placed at a prescribed location comprise a step of providing a single crystal grain in a specified region of a precursor of the film.

11. The process for producing a crystallized film according to claim 10, wherein the precursor of the film is an amorphous film, and the step of providing a single crystal grain at a prescribed location is a step of growing a crystal grain by solid-phase crystallization of the amorphous film.

12. The process for producing a crystallized film according to claim 10, wherein the step of providing a single crystal grain at a prescribed location is a step of growing a crystal grain by melting-resolidification of the precursor of the film.

13. The process for producing a crystallized film according to claim 12, wherein the step of growing the crystal grain by melting-resolidification of the precursor of the film and melting and resolidifying steps in a process for producing a crystallized film comprising the steps of preparing a film having a crystal grain at a prescribed location, melting a part of a region surrounding the crystal

grain of the film and a part of a boundary between the crystal grain and the surrounding film locally by pulse heating and re-solidifying the melted region, are conducted continuously by means of one and the same heating means.

14. The process for producing a crystallized film according to claim 10, wherein a spatial location of the crystal grain having a continuous crystal structure in the crystallized film is decided by fixing a spatial location of the specified region.

15. A crystallized film, comprising a crystal grain placed at a prescribed location, and another crystal grain grown laterally from the grain at a prescribed location.

16. An element, comprising a crystallized film set forth in claim 15, and arranging an elementary element in correspondence with the location of the crystal grain.

17. The element according to claim 16, wherein the crystal grains are utilized respectively as an active region of an active element.

18. The element according to claim 17, wherein the active region of the element is formed inside the single crystal grain of the crystallized film.

19. A circuit, comprising an element set forth in claim 16, and wiring connected to the element.

20. A device, comprising a circuit set forth

in claim 19 and a semiconductor device or a display device connected to the circuit.